OIPE JC179
APR 0 5 2002
PATENT & TRADEMARK OFFICE

#5

SEQUENCE LISTING

<110> Cambridge University Technical Services

<120> A novel family of beta sub-unit proteins from a voltage gated sodium channel nucleic acids encoding them and therapeutic or diagnostic uses thereof

<130> 674558-2001

<140> 09/997,579
<141> 2001-10-15

<150> PCT/EP00/01783
<151> 2000-02-24

<150> 60,129,473
<151> 2000-02-24

<160> 47

<170> PatentIn version 3.1

<210> 1
<211> 215
<212> PRT
<213> Rat

<400> 1

```
Met Pro Ala Phe Asn Arg Leu Leu Pro Leu Ala Ser Leu Val Leu Ile
1               5                   10                  15

Tyr Trp Val Arg Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu
            20                  25                  30

Thr Glu Ala Val Gln Gly Asn Pro Met Lys Leu Arg Cys Ile Ser Cys
        35                  40                  45

Met Lys Arg Glu Glu Val Glu Ala Thr Thr Val Val Glu Trp Phe Tyr
    50                  55                  60

Arg Pro Glu Gly Gly Lys Asp Phe Leu Ile Tyr Glu Tyr Arg Asn Gly
65                  70                  75                  80

His Gln Glu Val Glu Ser Pro Phe Gln Gly Arg Leu Gln Trp Asn Gly
                85                  90                  95

Ser Lys Asp Leu Gln Asp Val Ser Ile Thr Val Leu Asn Val Thr Leu
            100                 105                 110
```

```
Asn Asp Ser Gly Leu Tyr Thr Cys Asn Val Ser Arg Glu Phe Glu Phe
        115                 120                 125

Glu Ala His Arg Pro Phe Val Lys Thr Thr Arg Leu Ile Pro Leu Arg
    130                 135                 140

Val Thr Glu Glu Ala Gly Glu Asp Phe Thr Ser Val Val Ser Glu Ile
145                 150                 155                 160

Met Met Tyr Ile Leu Leu Val Phe Leu Thr Leu Trp Leu Phe Ile Glu
                165                 170                 175

Met Ile Tyr Cys Tyr Arg Lys Val Ser Lys Ala Glu Glu Ala Ala Gln
            180                 185                 190

Glu Asn Ala Ser Asp Tyr Leu Ala Ile Pro Ser Glu Asn Lys Glu Asn
        195                 200                 205

Ser Val Val Pro Val Glu Glu
    210                 215
```

<210> 2
<211> 215
<212> PRT
<213> Homo sapiens

<400> 2

```
Met Pro Ala Phe Asn Arg Leu Phe Pro Leu Ala Ser Leu Val Leu Ile
1               5                   10                  15

Tyr Trp Val Ser Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu
            20                  25                  30

Thr Glu Ala Val Gln Gly Asn Pro Met Lys Leu Arg Cys Ile Ser Cys
        35                  40                  45

Met Lys Arg Glu Glu Val Glu Ala Thr Thr Val Val Glu Trp Phe Tyr
    50                  55                  60

Arg Pro Glu Gly Gly Lys Asp Phe Leu Ile Tyr Glu Tyr Arg Asn Gly
65                  70                  75                  80

His Gln Glu Val Glu Ser Pro Phe Gln Gly Arg Leu Gln Trp Asn Gly
                85                  90                  95
```

```
Ser Lys Asp Leu Gln Asp Val Ser Ile Thr Val Leu Asn Val Thr Leu
            100                 105                 110

Asn Asp Ser Gly Leu Tyr Thr Cys Asn Val Ser Arg Glu Phe Glu Phe
        115                 120                 125

Glu Ala His Arg Pro Phe Val Lys Thr Thr Arg Leu Ile Pro Leu Arg
    130                 135                 140

Val Thr Glu Glu Ala Gly Glu Asp Phe Thr Ser Val Val Ser Glu Ile
145                 150                 155                 160

Met Met Tyr Ile Leu Leu Val Phe Leu Thr Leu Trp Leu Leu Ile Glu
                165                 170                 175

Met Ile Tyr Cys Tyr Arg Lys Val Ser Lys Ala Glu Glu Ala Ala Gln
            180                 185                 190

Glu Asn Ala Ser Asp Tyr Leu Ala Ile Pro Ser Glu Asn Lys Glu Asn
        195                 200                 205

Ser Ala Val Pro Val Glu Glu
    210                 215
```

<210> 3
<211> 2220
<212> DNA
<213> rat

<400> 3

```
cgtggccctg gagagggacg gttttgacca cctaatcgtc cagcatcggg gcttcgcaag     60

atccaggaac gcgccccacg gaaaggggtc cctcggtcta cccatcctcc acctctgaga    120

tcacccaccc caccggaggt cccacctctt tccacccctg aaggacctcc tgtgagcccg    180

ggaccctgtg tacaggactg aagtggaaca aattctgtag cccagacgac ggctggagtg    240

gggacacgcc caactgaaga agcctgcccc gccgtagaag cccgagatcc tgagtctcgg    300

tggattgaag tcgttgtccc tgggggaggc aagagcttca gaaatcgctt acggtggaaa    360

agatgcctgc cttcaacaga ttgcttcccc tagcttctct agtgctcatc tactgggtca    420

gagtctgctt ccctgtgtgt gtggaagtgc cctcggagac agaagcggtg cagggcaatc    480

ccatgaagct gaggtgcatc tcctgcatga agagggagga ggtggaggcc accactgtgg    540
```

tggagtggtt ctacaggcct gagggcggta aagatttcct tatatatgag tatcggaatg 600

gccaccagga agtggagagc cccttccaag gccgtctgca gtggaatggg agcaaagacc 660

tgcaggacgt atccatcact gtactcaatg tcactttgaa tgactctggc ctctacacat 720

gcaatgtgtc cagggagttc gaattcgagg cacacaggcc ttttgtgaag accacgagac 780

tgataccttt gcgagtcact gaagaggcgg gagaagactt cacctccgtg gtctcggaaa 840

tcatgatgta catcctcctg gtcttcctca ccttgtggct gtttattgag atgatctatt 900

gctacagaaa ggtctctaag gccgaagagg cagcacagga aaatgcgtct gactaccttg 960

ctatcccttc agagaacaag gagaactctg tggtacctgt ggaggaataa tgtggtgtga 1020

cttgaggtga tgtacacagg catctgggag ggtgatctga gtgctgaggg actggatatc 1080

cccagttcag tgatgccagc aatatcagga agtgccccag gtgtcccaac acatccatct 1140

tttctattca tcaaccacca acccaatgtg agattttcac ctgacttccg aactctatca 1200

gaactctaca catctttacc ttgcctgaac cgaagagcca acatctatct ctacacggac 1260

taaacctcac tctgttcttg cttccaacca agtaactccc aacttaacta gagttgttcc 1320

ctatgttcca aatgatttag acaagtactg gagagtagta ttacctctgc cctgactgtc 1380

tgtgactggg tcattctcca ctgcagcaaa aggatggata taaatcggaa gaaagccctg 1440

actagtttgt cttaaagcca aagcgtgcca cgtacgtact ttgattcatt gaagtcagtt 1500

tttcctgctt ctcagagcgc cagaaagcat gcccctaatg cttgcaggga catcatctgt 1560

gtgcactgga acgctttctg gagctcagtg tttggaggct gtatccccat aatcctgaag 1620

acctggagca aacccagaac ttccaggaag tcccaaggaa ggatccagga cagtttcagg 1680

gtctcgaaaa tgatataaca cactcctgat attggaaaca tggatgagtg acctttctgg 1740

attgaaactc ctcagttctt catgtctcag tgtctgtgga tcagtattag tcctcgtttt 1800

acaggaggaa actgagactc acacaaggct gaacaggaca tttaggggat taaactgggc 1860

cagagatgac tttcctgcca ccaacctcac actccctggg atgagaggta tttttgagga 1920

ctctaacatt cagcatgcca tttgcccagc ggaagctgac tgccacagat ctgaggaact 1980

ggaaaccagg taagaaaaca cagacggcat gagatagact tcaggatttc acacaaagat 2040

ttgtgaatct gaagcatcct ccaggagaga cggcacccga gggcaatatc tctgtgatga 2100

aaaatggttt tagtctgaaa tggacagtca acagagagac aaagatgggc gtgtagcttc 2160

taaatacctc acctgtagat gtcacgtttg ggtactggtg tttgtaaagt cccccacctg 2220

<210> 4
<211> 1261
<212> DNA
<213> Homo sapiens

<400> 4
ccctcccttc cgagctgagc ttaccctggg cgcaaacgag cgaggcaggg gcgcgagtgg 60

aagctggagt tccggggtgg gcggggaggc gactgtccgt ggtgctgagc gccggcgaga 120

gcgggcgcgg agcggctgat cggctccctc gaactgggga ggtccagtgg ggtcgcttag 180

ggcccaaagc ccccacccgg ctccaaaagc tcccagggcc tccccaggca ccggtgctcg 240

gcccttcctt cggtcagaaa gtcgcccccc gggggcagtt cgtcccaaag ggtttcctcg 300

aaagaatctg agagggcgca gtccttgacc gagggaatct ctctgtgtag ccttggaagc 360

cgccagcccc agaagatgcc tgccttcaat agattgtttc ccctggcttc tctcgtgctt 420

atctactggg tcagtgtctg cttccctgtg tgtgtggaag tgccctcgga gacggaggcc 480

gtgcagggca accccatgaa gctgcgctgc atctcctgca tgaagagaga ggaggtggag 540

gccaccacgg tggtggaatg gttctacagg cccgagggcg gtaaagattt ccttatttac 600

gagtatcgga atggccacca ggaggtggag agccccttc aggggcgcct gcagtggaat 660

ggcagcaagg acctgcagga cgtgtccatc actgtgctca acgtcactct gaacgactct 720

ggcctctaca cctgcaatgt gtcccgggag tttgagtttg aggcgcatcg gccctttgtg 780

aagacgacgc ggctgatccc cctaagagtc accgaggagg ctggagagga cttcacctct 840

gtggtctcag aaatcatgat gtacatcctt ctggtcttcc tcaccctgtg gctgctcatc 900

gagatgatat attgctacag aaaggtctca aaagccgaag aggcagccca agaaaacgcg 960

tctgactacc ttgccatccc atctgagaac aaggagaact ctgcggtacc agtggaggaa 1020

tagaacagga gcagtgtgac atgaggtggc ctgaacacct gagggactgg acatcccatg 1080

ttcagcaatg tcaatggcat caggagggcg ccccaagggc cccatcgctt cccttcatgc 1140

atccattgtt ctgttcattc attcatccat acatccacct gcctctgagc tttcacctct 1200

gactccctaa ctccatcaga cctctacgca ccataagact ctgccagaac tgagaagccg 1260

g 1261

<210> 5
<211> 24
<212> PRT
<213> Homo sapiens

<400> 5

Met Pro Ala Phe Asn Arg Leu Phe Pro Leu Ala Ser Leu Val Leu Ile
1 5 10 15

Tyr Trp Val Ser Val Cys Phe Pro
20

<210> 6
<211> 24
<212> PRT
<213> rat

<400> 6

Met Pro Ala Phe Asn Arg Leu Leu Pro Leu Ala Ser Leu Val Leu Ile
1 5 10 15

Tyr Trp Val Arg Val Cys Phe Pro
20

<210> 7
<211> 19
<212> PRT
<213> homo sapiens

<400> 7

Met Pro Ala Phe Asn Arg Leu Phe Pro Leu Ala Ser Leu Val Leu Ile
1 5 10 15

Tyr Trp Val

<210> 8
<211> 19
<212> PRT
<213> rat

<400> 8

Met Pro Ala Phe Asn Arg Leu Leu Pro Leu Ala Ser Leu Val Leu Ile
1 5 10 15

Tyr Trp Val

<210> 9
<211> 12

<212> PRT
<213> homo sapiens

<400> 9

Met Pro Ala Phe Asn Arg Leu Phe Pro Leu Ala Ser
1 5 10

<210> 10
<211> 12
<212> PRT
<213> rat

<400> 10

Met Pro Ala Phe Asn Arg Leu Leu Pro Leu Ala Ser
1 5 10

<210> 11
<211> 15
<212> PRT
<213> homo sapiens

<400> 11

Phe Pro Leu Ala Ser Leu Val Leu Ile Tyr Trp Val Ser Val Cys
1 5 10 15

<210> 12
<211> 15
<212> PRT
<213> rat

<400> 12

Leu Pro Leu Ala Ser Leu Val Leu Ile Tyr Trp Val Arg Val Cys
1 5 10 15

<210> 13
<211> 5
<212> PRT
<213> homo sapiens

<400> 13

Ser Val Cys Phe Pro
1 5

<210> 14
<211> 5
<212> PRT
<213> rat

<400> 14

Arg Val Cys Phe Pro
1 5

<210> 15
<211> 11
<212> PRT
<213> Homo sapiens

<400> 15

Val Leu Ile Tyr Trp Val Ser Val Cys Phe Pro
1 5 10

<210> 16
<211> 11
<212> PRT
<213> rat

<400> 16

Val Leu Ile Tyr Trp Val Arg Val Cys Phe Pro
1 5 10

<210> 17
<211> 39
<212> PRT
<213> homo sapiens

<400> 17

Met Pro Ala Phe Asn Arg Leu Phe Pro Leu Ala Ser Leu Val Leu Ile
1 5 10 15

Tyr Trp Val Ser Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu
20 25 30

Thr Glu Ala Val Gln Gly Asn
35

<210> 18
<211> 39
<212> PRT
<213> rat

<400> 18

Met Pro Ala Phe Asn Arg Leu Leu Pro Leu Ala Ser Leu Val Leu Ile
1 5 10 15

Tyr Trp Val Arg Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu
20 25 30

Thr Glu Ala Val Gln Gly Asn
35

<210> 19
<211> 9
<212> PRT
<213> Homo sapiens

<400> 19

Cys Val Glu Val Pro Ser Glu Thr Glu
1 5

<210> 20
<211> 17
<212> PRT
<213> Homo sapiens

<400> 20

Trp Val Ser Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu Thr
1 5 10 15

Glu

<210> 21
<211> 17
<212> PRT
<213> Rat

<400> 21

Trp Val Arg Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu Thr
1 5 10 15

Glu

<210> 22
<211> 159
<212> PRT
<213> Homo sapiens

<400> 22

```
Met Pro Ala Phe Asn Arg Leu Phe Pro Leu Ala Ser Leu Val Leu Ile
1               5                   10                  15

Tyr Trp Val Ser Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu
            20                  25                  30

Thr Glu Ala Val Gln Gly Asn Pro Met Lys Leu Arg Cys Ile Ser Cys
        35                  40                  45

Met Lys Arg Glu Glu Val Glu Ala Thr Thr Val Val Glu Trp Phe Tyr
    50                  55                  60

Arg Pro Glu Gly Gly Lys Asp Phe Leu Ile Tyr Glu Tyr Arg Asn Gly
65                  70                  75                  80

His Gln Glu Val Glu Ser Pro Phe Gln Gly Arg Leu Gln Trp Asn Gly
                85                  90                  95

Ser Lys Asp Leu Gln Asp Val Ser Ile Thr Val Leu Asn Val Thr Leu
            100                 105                 110

Asn Asp Ser Gly Leu Tyr Thr Cys Asn Val Ser Arg Glu Phe Glu Phe
        115                 120                 125

Glu Ala His Arg Pro Phe Val Lys Thr Thr Arg Leu Ile Pro Leu Arg
    130                 135                 140

Val Thr Glu Glu Ala Gly Glu Asp Phe Thr Ser Val Val Ser Glu
145                 150                 155
```

<210> 23
<211> 159
<212> PRT
<213> Rat

<400> 23

```
Met Pro Ala Phe Asn Arg Leu Leu Pro Leu Ala Ser Leu Val Leu Ile
1               5                   10                  15

Tyr Trp Val Arg Val Cys Phe Pro Val Cys Val Glu Val Pro Ser Glu
            20                  25                  30

Thr Glu Ala Val Gln Gly Asn Pro Met Lys Leu Arg Cys Ile Ser Cys
```

35 40 45

Met Lys Arg Glu Glu Val Glu Ala Thr Thr Val Val Glu Trp Phe Tyr
50 55 60

Arg Pro Glu Gly Gly Lys Asp Phe Leu Ile Tyr Glu Tyr Arg Asn Gly
65 70 75 80

His Gln Glu Val Glu Ser Pro Phe Gln Gly Arg Leu Gln Trp Asn Gly
85 90 95

Ser Lys Asp Leu Gln Asp Val Ser Ile Thr Val Leu Asn Val Thr Leu
100 105 110

Asn Asp Ser Gly Leu Tyr Thr Cys Asn Val Ser Arg Glu Phe Glu Phe
115 120 125

Glu Ala His Arg Pro Phe Val Lys Thr Thr Arg Leu Ile Pro Leu Arg
130 135 140

Val Thr Glu Glu Ala Gly Glu Asp Phe Thr Ser Val Val Ser Glu
145 150 155

<210> 24
<211> 10
<212> PRT
<213> Homo sapiens

<400> 24

Thr Thr Arg Leu Ile Pro Leu Arg Val Thr
1 5 10

<210> 25
<211> 13
<212> PRT
<213> Homo sapiens

<400> 25

Cys Met Lys Arg Glu Glu Val Glu Ala Thr Thr Val Val
1 5 10

<210> 26
<211> 10
<212> PRT
<213> Homo sapiens

<400> 26

Tyr Glu Tyr Arg Asn Gly His Gln Glu Val
1 5 10

<210> 27
<211> 12
<212> PRT
<213> Homo sapiens

<400> 27

Trp Asn Gly Ser Lys Asp Leu Gln Asp Val Ser Ile
1 5 10

<210> 28
<211> 14
<212> PRT
<213> Homo sapiens

<400> 28

Ser Arg Glu Phe Glu Phe Glu Ala His Arg Pro Phe Val Lys
1 5 10

<210> 29
<211> 9
<212> PRT
<213> Homo sapiens

<400> 29

Val Glu Ser Pro Phe Gln Gly Arg Leu
1 5

<210> 30
<211> 13
<212> PRT
<213> Homo sapiens

<400> 30

Glu Glu Ala Gly Glu Asp Phe Thr Ser Val Val Ser Glu
1 5 10

<210> 31
<211> 34
<212> PRT
<213> Homo sapiens

<400> 31

Arg Lys Val Ser Lys Ala Glu Glu Ala Ala Gln Glu Asn Ala Ser Asp
1 5 10 15

Tyr Leu Ala Ile Pro Ser Glu Asn Lys Glu Asn Ser Ala Val Pro Val
20 25 30

Glu Glu

<210> 32
<211> 7
<212> PRT
<213> Homo sapiens

<400> 32

Asp Tyr Leu Ala Ile Pro Ser
1 5

<210> 33
<211> 22
<212> DNA
<213> Artificial sequence

<220>
<223> primer used to amplify nucleic acid sequences encoding b3 subunit nucleic acid of rat or human

<400> 33
atgcctgcct tcaacagatt gc 22

<210> 34
<211> 20
<212> DNA
<213> Artificial sequence

<220>
<223> primer used to amplify nucleic acid sequences encoding b3 subunit nucleic acid of rat or human

<400> 34
ttattcctcc acaggtacca 20

<210> 35
<211> 45
<212> DNA
<213> Artificial sequence

<220>
<223> antisense radiolabelled oligonucleotide probe used in the in situ

hybridization experiments

<400> 35
ggggaagcaa tctgttgaag gcaggcatct tttccaccgt aagcg 45

<210> 36
<211> 18
<212> DNA
<213> Artificial sequence

<220>
<223> primer used to amplify nucleic acid encoding a b3 sub-unit from a voltage-gated sodium channel

<400> 36
ggtgaagcaa tatggccg 18

<210> 37
<211> 18
<212> DNA
<213> Artificial sequence

<220>
<223> reverse primer (nucleotides 1317-1300) corresponding to unique sequence in the 3' untranslated region of each b subunit

<400> 37
agatgaggcc cagaaccc 18

<210> 38
<211> 20
<212> DNA
<213> Artificial sequence

<220>
<223> forward primer (nucleotides 1942-1961) corresponding to unique sequence in the 3' untranslated region of each b subunit

<400> 38
ggaagctgac tgccacagat 20

<210> 39
<211> 20
<212> DNA
<213> Artificial sequence

<220>
<223> reverse primer (nucleotides 2209-2190) corresponding to unique sequence in the 3' untranslated region of each b subunit

<400> 39
cctgggggac tttacaaaca 20

<210> 40
<211> 19
<212> DNA
<213> Artificial sequence

<220>
<223> a-tubulin forward primer (nucleotides 298-316) corresponding to unique sequence in the 3' untranslated region of each b subunit

<400> 40
cactggtacg tgggtgagg 19

<210> 41
<211> 22
<212> DNA
<213> Artificial sequence

<220>
<223> reverse primer (nucleotides 469-448) corresponding to unique sequence in the 3' untranslated region of each b subunit

<400> 41
tttgacatga tacagggact gc 22

<210> 42
<211> 44
<212> DNA
<213> Artificial sequence

<220>
<223> rat b1 (nucleotides 1296-1252) primer used in immobilization of nucleic acid probe on a substrate

<400> 42
gcttgatggg gtgaagaggg gtcgggacag ggacagtagt gggc 44

<210> 43
<211> 45
<212> DNA
<213> Artificial sequence

<220>
<223> rat a IIA (nucleotides 1659-1615) primer used in immobilization of nucleic acid probe on a substrate

<400> 43
gcagaatcca gagacttcag cggggcaggc gggataggtg ttttc 45

<210> 44
<211> 218
<212> PRT
<213> Rat

<400> 44

Met Gly Thr Leu Leu Ala Leu Val Val Gly Ala Val Leu Val Ser Ser
1 5 10 15

Ala Trp Gly Gly Cys Val Glu Val Asp Ser Glu Thr Glu Ala Val Tyr
20 25 30

Gly Met Thr Phe Lys Ile Leu Cys Ile Ser Cys Lys Arg Arg Ser Glu
35 40 45

Thr Thr Ala Glu Thr Phe Thr Glu Trp Thr Phe Arg Gln Lys Gly Thr
50 55 60

Glu Glu Phe Val Lys Ile Leu Arg Tyr Glu Asn Glu Val Leu Gln Leu
65 70 75 80

Glu Glu Asp Glu Arg Phe Glu Gly Arg Val Val Trp Asn Gly Ser Arg
85 90 95

Gly Thr Lys Asp Leu Gln Asp Leu Ser Ile Phe Ile Thr Asn Val Thr
100 105 110

Tyr Asn His Ser Gly Asp Tyr Glu Cys His Val Tyr Arg Leu Leu Phe
115 120 125

Phe Asp Asn Tyr Glu His Asn Thr Ser Val Val Lys Lys Ile His Leu
130 135 140

Glu Val Val Asp Lys Ala Asn Arg Asp Met Ala Ser Ile Val Ser Glu
145 150 155 160

Ile Met Met Tyr Val Leu Ile Val Val Leu Thr Ile Trp Leu Val Ala
165 170 175

Glu Met Val Tyr Cys Tyr Lys Lys Ile Ala Ala Ala Thr Glu Ala Ala
180 185 190

Ala Gln Glu Asn Ala Ser Glu Tyr Leu Ala Ile Thr Ser Glu Ser Lys
195 200 205

Glu Asn Cys Thr Gly Val Gln Val Ala Glu
210 215

<210> 45
<211> 119
<212> PRT
<213> Rat

<400> 45

Ile Val Val Tyr Thr Asp Arg Glu Val Tyr Gly Ala Val Gly Ser Gln
1 5 10 15

Val Thr Leu His Cys Ser Phe Trp Ser Ser Glu Trp Val Ser Asp Asp
20 25 30

Ile Ser Phe Thr Trp Arg Tyr Gln Pro Glu Gly Gly Arg Asp Ala Ile
35 40 45

Ser Ile Phe His Tyr Ala Lys Gly Gln Pro Tyr Ile Asp Glu Val Gly
50 55 60

Thr Phe Lys Glu Arg Ile Gln Trp Val Gly Asp Pro Ser Trp Lys Asp
65 70 75 80

Gly Ser Ile Val Ile His Asn Leu Asp Tyr Ser Asp Asn Gly Thr Phe
85 90 95

Thr Cys Asp Val Lys Asn Pro Pro Asp Ile Val Gly Lys Thr Ser Gln
100 105 110

Val Thr Leu Tyr Val Phe Glu
115

<210> 46
<211> 8
<212> PRT
<213> Homo sapiens

<400> 46

Glu Gly Gly Lys Asp Phe Leu Ile
1 5

<210> 47
<211> 34
<212> PRT
<213> Rat

<400> 47

Arg Lys Val Ser Lys Ala Glu Glu Ala Ala Gln Glu Asn Ala Ser Asp
1 5 10 15

Tyr Leu Ala Ile Pro Ser Glu Asn Lys Glu Asn Ser Val Val Pro Val
20 25 30

Glu Glu